DOCUMENT RESUME

ED 350 029 JC 920 480

AUTHOR	Badra, Robert
TITLE	The Humanities, Science and Technology: Making Connections.
INSTITUTION	Kalamazoo Valley Community Coll., Mich.
SPONS AGENCY	National Endowment for the Humanities (NFAH), Washington, D.C.
PUB DATE	92
NOTE	20p.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	College Faculty; Community Colleges; *Faculty Development; *Humanities; Humanities Instruction; *Interdisciplinary Approach; *Philosophy; Postsecondary Education; *Science and Society; Seminars; Summer Programs; *Teacher Workshops; Technological Advancement; Two Year Colleges

ABSTRACT

In the summers of 1991 and 1992, 4-week faculty institutes were held at Kalamazoo Valley Community College (KVCC), in Michigan. Funded by grants from the National Endowment for the Humanities, the institutes sought to examine the ways in which the humanities, science, and technology have each advanced human understanding. During the 1991 institute, 20 to 22 KVCC faculty representing such diverse disciplines as auto-mechanics, nursing, photography, and physics, participated in the four, week-long programs of the institute, each taught by a visiting scholar. Subjects of the 1991 sessions were: "Rene Descartes, David Hume and the Enlightenment"; "Dante"; "Japanese Neo-Confucianism. Kaibara Ekken and Thomas Berry"; and "Socrates, Marcus Aurelius, Epicurus, Bacon, Darwin, Bergson, Merton." The summer 1992 institute, whose overall theme was "The City: Where Connections Are Made," considered the following four subthemes, one for each week of the institute: "The Gender Connection"; "The Work Connection"; "The Spiritual Connection;" and "The Ethics Connection." As in the first institute, 20 faculty participated in the 1992 sessions, completing preparatory readings, and maintaining written journals during the course of the sessions. The institute format included readings, discussions, films, and lecture presentations by the visiting scholars. Participants were required to complete two essay examinations (mid-term and final), and to submit their journals at the end of the institute. A list of faculty participants from KVCC, visiting faculty mentors, a review of the questions the institute sought to answer, and a bibliography of readings are included. (PAA)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED350029

The Humanities, Science and Technology: Making Connections

Robert Badra

Kalamazoo Valley Community College, MI

PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

R. Badra

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☒ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Sponsored by The National Endowment for the Humanities

JC 920 480

BEST COPY AVAILABLE

To: ERIC/JC
From: Robert Badra
NEH Project Director
Kalamazoo Valley Community College
6767 West O Avenue
Kalamazoo, Michigan 49009

In the Spring of 1991, the National Endowment for the Humanities awarded a grant to Kalamazoo Valley Community College entitled, **The Humanities, Science and Technology: Making Connections.** The grant runs through March of 1993. A short history of the grant follows.

The first intent of the grant is to bring the faculties of the humanities, science and technology together to dialogue. This dialogue reflects the integrity of the learning enterprise and the world in which connections are made. Books of lasting value have been read and discussed, and nationally recognized scholars have visited our campus over the past two years to deepen that dialogue. With these scholars, the twenty participating faculty have invested eight weeks of their times in two summer institutes, each of four weeks duration. During this time, we have broadened our academic vision to include each other's perspectives. We have explored principles and values together.

The second intent of the grant is to initiate a dialogue with our students in the humanities, science and technology so that they too can experience the world in which connections are made, learn how world views are shaped, and explore principles and values together.

The third intent of the grant is to design a course which will serve as the vehicle for this dialogue with students. We have created a four credit course, to be taught for the first time in January of 1993. The course will be theme centered, but each theme will receive the feedback of instructors from several disciplines. Ten instructors will be involved the first time, fewer in semesters to follow, but always there will be the interplay of the humanities, science and technology. Themes running through the course the first time around: The Exploration and Technology Connection, The Thinking and Wondering Connection, The Work Connection, The Nature and Human Nature Connection, and The Relational Connection.

We are also sending you a copy of the history of our First and Second Summer Institutes under our grant, to give you a taste of what our visiting scholars brought to us. We are also sending you a copy of our tentative course outline and a copy of our List of Books which we have either discussed or have been encouraged to read. We hope that someone along the ERIC grapevine will find something here with which they can identify and perhaps find some inspiration to pursue a similar dialogue on their campuses as well.

Thank you for your gracious invitation to include our NEH supported project in the ERIC/JC database.

A History of the Events Surrounding
The NEH Sponsored Project at KVCC
The Humanities, Science and Technology: Making Connections

Project Director: Robert Badra

Kalamazoo Valley Community College
Michigan

National Endowment for the Humanities
Washington, D.C.

Prologue

Most of the 20 to 22 faculty involved in the HST project as it now begins in May of 1991 have prepared for the scholarly mode of our summer institutes by participating in a number of Great Book discussions over the past two years. As we began our first week of the first summer institute, it was apparent that such disparate peoples from disparate disciplines can indeed look at the same world together and learn to make connections in that world and among those seemingly not so disparate disciplines. It is too soon to see where or how it will all end, but as project director I am secure that the ending will indeed produce new learning experience for our faculty and our students that will prove itself worthy of the trust of the NEH.

First Summer Institute
Connection Makers Throughout the Centuries
May and June 1991

First Week of the Institute
May 20-24, 1991
Professor Wade Robison, Rochester Institute of Technology
Rene Descartes, David Hume and the Enlightenment

When the classicist Martha Nussbaum of Brown University informed us of her regrets that she could not join us for our institute, we called upon Wade Robison, currently visiting professor of applied ethics at Rochester Institute, but typically professor of philosophy at Kalamazoo College. His week with us was grandly successful. We were fortunate to have him as our first visiting scholar.

In preparation for Wade Robison's visit, our involved faculty read the following sources: The World by Rene Descartes, chapters 1 and 7; a portion of Description of the Human Body by Descartes; the following readings from David Hume---Treatise, pp. 75-82; Abstract, pp. 11-16; Enquiry Concerning Human Understanding, Section IV; Enquiry, Section X On Miracles; Essays, "That politics may be reduced to a science," "On the independency of parliament," and "Taxes."

Over and above the readings just mentioned, sundry sources came into Wade's dialogue with the faculty, from Sir Robert Boyle's The Skeptical Chemist to Defoe's Roxana. It was the proverbial Tour de Force. Wade engaged us in dialogue by stimulating questions raised from his anecdotal approach to his subject matter. For a time we were hooked in Descarte's world, neither fully medieval nor yet scientific, and while our fingers clawed at the walls of a disappearing world, Wade gently led us into David Hume and a world of another kind.

We came to understand Descarte's world-view even as we wanted out of it, and Hume's world-view, while we found ourselves closer to home there, startled us into realizing just how many worlds there

have been, based so much on our perceptions.

In our summary and evaluation session at the end of the week the Institute participants agreed that our scholar was intellectually stimulating, respecting our ability to "think" about topics we might not otherwise "think" about. One significant lesson was the emphasis on our contingent world view and the errors it might hold, all pointing to the need for an awareness of conceptual change. From this awareness flows the realization of how ephemeral humanity's time on earth has been.

From this first week of the Institute we have seen the importance of being self-reflective, the value of intellectual fermentation, and the great worth of the dialogue we have begun.

Second Week of the Institute
May 27-31, 1991
Professor Tibor Wlassics, University of Virginia
Dante

In this second week, our group came together, that is to say, jelled. Wittingly or unwittingly Dante became the catalyst for our group. We began the week as skeptics. The auto-mechanic, the engineer, the photographer, the nurse, the biologists, the physicist, wondered what if anything Dante could mean to them. The weekend before the seminar, our auto-mechanic took along his copy of Tibor Wlassic's translation of the Inferno on a camping trip. He was ready to throw it in when his wife, a grade school teacher, suggested that she read the Inferno to him. That made the difference. When Tibor said that the Comedy was written to be read aloud, our auto-mechanic beamed from ear to ear. By the end of the week Tibor had intimately and humorously brought Dante to every discipline, to every individual, in the most warming manner possible. This is Tibor's special gift, and it brought our group together.

An outline of Tibor Wlassics' course will indicate his successful methodology very easily. He first gave us some biography and some data on the challenges of translation. As I indicated above, Tibor's translation of the Inferno was everyone's homework, plus a multitude of helpful handouts. Next he discussed realism and surrealism in Dante: Oneirism as seen in the 1st Canto of the Inferno. Then he really hit home on the sciences and technology. Selfportrait of an Observer: The Naturalist in Hell. A Medico in Hell:Symptoms and Diagnoses. An Infernal Shrink: Dante the Psychologist. Dante's Eyes: The Cameraman in Hell. By the end of the week, none of us felt left out. Further, we were enthralled.

Of Tibor it was agreed that he is a world class scholar, and on top of that, one of the most delightful individuals we have ever met. Highlights: "Everything I say doesn't always pertain to Dante but usually it pertains to the humanities, or at least humanity." "How utterly useless Dante is, and how wonderful!" Tibor's approach was dialogue. He encouraged what he called intervention, and all along

the way he rewarded us with his undivided attention. We were impressed at how well he came to know us. By the end of the week, we had a better handle on good teaching, the value of storytelling, the role of ambiguity in any discipline and in life, and yes, we appreciated Dante.

Third Week of the Institute
June 3-7, 1991
Professor Mary Evelyn Tucker of Bucknell University
Japanese Neo-Confucianism: Kaibara Ekken and Thomas Berry

We were ready for Mary Evelyn Tucker and she for us. If our group jelled last week, this week our group came to possess the materials it has been given, not just this week's materials, but the previous weeks' materials too. To "possess" the materials we read is to see them as more than something outside of ourselves. Rather, the material has come to life for us. What is remarkable is that we came to "possess" this week's material, Confucian and other Asian texts, and by reading these texts aloud, sentence by sentence, in turn, we came to see that these Asian texts are truly accessible and not as abstruse as we had pre-determined. We are no longer leary of interpreting such texts.

This was one of Mary Evelyn's many gifts to us. Familiar as she is with both the Chinese and Japanese languages, and having translated from the Japanese the work of Kaibara Ekken (1630-1714), no small accomplishment, we came to see the mind and heart of Kaibara Ekken is tuned in to our own. That she chose him for our edification was more than coincidence. One quote from Mary Evelyn's book will explain his "connection" with our Humanities, Science and Technology project.

> To be a technician of knowledge or skills was not Ekken's aim; instead he called for a blending of humanistic and scientific studies that would combine theoretical and practical issues relevant to the people of his day. In content and in method Ekken's interest in practical learning had significant implications. Indeed, he saw this investigation as another aspect of self-cultivation and as a means of relating one to the vital force in the cosmos. To examine plants or agricultural methods, for example, was a way of understanding nature's life giving capacity. Similarly, studying or practicing medicine was meaningless without the recognition that a person was nourishing life and practicing humaneness.

Which then brings us to the work of Thomas Berry, who calls himself a geo-theologian. In his work, which Mary Evelyn, as Berry's student, could certainly elucidate for us, it was seen that his work on behalf of the earth flows easily from his own deep knowledge of Asian traditions. Fourty years ago he and the Asian scholar William de Bary met and studied in China. It is no wonder that Thomas Berry, when speaking on behalf of the earth, draws on ancient Chinese traditions of the intimacy of beings with each other and the universal law of compassion.

We quickly came to appreciate Mary Evelyn Tucker as a Master Teacher: supportive, positive, encouraging, in-tune with each of us as individuals and our interests. Some quotes from colleagues: "Mary Evelyn opened up a whole new world of study on Confucius." "It was personal growth for me---in fact, all three weeks so far have been that for me." "She let us tell our stories---she relinquished control." "My level of awareness concering ecology has jumped exponentially, both from her thinking on the Asian texts and Thomas Berry, a man also acquainted with those texts."

All of us are agreed that these weeks are changing us.

Fourth Week of the Institute
June 10-14, 1991
Professor James Christian, Rancho Santiago College
Socrates, Marcus Aurelius, Epicurus
Bacon, Darwin, Bergson, Merton

For Professor Jim Christian we prepared ourselves by reading many chapters from his soon-to-be-published book on the great philosophers of history. Jim Christian's method is dialogue and our faculty rose to the occasion. If I had been told just six weeks ago that our 20 participating faculty would engage themselves in a non-stop, 90 minute discussion on the life and work of Socrates, with all the confidence I have in my colleagues I would have been skeptical. Not only did it happen, but it happened at a high level of understanding. And it happened for each of the philosophers we discussed. This was both a tribute to Jim Christian who showed himself to be a Master Facilitator, and to the participating faculty who impressed Jim Christian with their own high level of scholarship. This has been a week to treasure, a week however for which we were prepared by the experiences of the first three weeks as well as the preceding two years of shared reading and discussion. What has transpired here is heady, probably rare, and certainly remarkable.

It was the general consensus of the participants that this fourth week was a peak experience, a joyful experience, one that truly filled a gap.

Overall, this last statement also summarises the entire First Institute. We know what we are about as never before, and we look forward to all that is ahead.

Joyfully submitted,

Robert Badra
NEH Project Director

History Of
The Second Institute
The Humanities, Science and Technology
Making Connections
An AACJC Advancing the Humanities Project
Made Possible By A Grant From
The National Endowment for the Humanities
Kalamazoo Valley Community College
May 11 to June 5, 1992

Theme of the Institute
The City: Where Connections Are Made

Prologue

During the First Summer Institute in May and June of 1991, the twenty participants went from strangers in a strange land to familiars both to each other and to the territory. We "jelled" as was said at the conclusion of our first History. We are sending along a copy of that First History to help with the continuity of our storyline. Writing this history at the end of each Institute is important to us. We hope it will be a pleasure for you to read.

That wonderful sense of sharing something very special together, something that will have tangible consequences for all of us and for our college, continues with Institute Two. We know more surely what we are all about. We are at ease with each other, with our scholars, and with our dream. Which really means that we are ready to create our outcome, our course, and make it happen for our students.

First Week of the Institute
Theme: The Gender Connection
Visiting Scholars: Bonnie S. Anderson and Judith P. Zinsser
Authors of <u>A History of Their Own</u>

Asymmetry. That word became dynamic for us this week. Through our readings, the presentations of our scholars, and the personal journal we were encouraged to keep, the lesson was driven home to us. Asymmetry. We are not equal yet. Men, too, are prisoners of gender. We all have shackles to break, men and women, but will we know what to do together? Beyond gender, we will still be women and men. Bonnie and Judith challenged us to see that a certain kind of mythic thinking about women, for example that they are weak, or that they are strong, cripples both men and women. We can all too easily become frightened people, frozen in old attitudes, inhibited in our ability to think about social change in creative ways. We were gently drawn to see that we can best think about social change as women and men, together. The centuries have not arrived at that conclusion easily. Neither did we. We had to work at it. We had to mean it. And that took effort. Happily exhausted, we were then asked to consider in our journals whether we were feminists.

Feminism. That word also became dynamic for us this week. One of my colleagues states the process we all went through with respect to this word very well. She says that she was a bit apprehensive about Bonnie and Judith because although she had devoured and thoroughly enjoyed their book, she was uncertain about the "F" word as Bonnie called it. Then I will quote directly my colleague's own words. "But what a pleasant and enlightening week we shared with them. I felt they brought the concerns of women to the fore by showing how these are concerns of humanity." And from another colleague, who said that he greatly appreciated Bonnie and Judith, "Clearly one can be academically respectable in an area one has passionate feelings and beliefs about. The use of example and the subjects' own words (a historian's technique) can be powerful."

Second Week of the Institute
Theme: The Work Connection
Visiting Scholar: Robert Sessions, Co-author of Working in America

We began with a point of departure. Work is a human activity wherein people attempt to affect their world and therein put their mark on it. Work is also a process wherein people are made. From there, you might say we had our work cut out for us. Sessions is convinced that we are at a turning point in the history of work, and that we are turning in the direction of what we can call "good work."

After studying and discussing Parker J. Palmer's "The Woodcarver" which is sub-titled **A Model for Right Action**, combined with reflections on the perennial Willie Loman, we concluded along with Parker Palmer that right action is "faithful to the nature of things." Organic action influences the organism. To be healthier, more whole, with less fear, released from the need to control, released from idealistic fantasies, from the facts that surround us and so often discourage us. We might even re-define what it means to work. We will no longer be inclined to exploit nature, to exploit each other, not merely for profit, but for outright greed.

At which point the Japanese film masterpiece **IKIRU** underscored the need not only to stop and smell the roses but to plant them as well. To take the time to live and to love, to love the world, the self, the community, in such a way as to promise that our children too will live and love. The hero of **IKIRU** begins as a workaholic cought in a bureaucratic time warp. To the sheer surprise of his colleagues, in his dying days, he cuts through all the red tape and a park is created in the middle of a clamorous city. I can still see him, a wasted old man, sitting on a swing in the park he made happen, singing a mournful tune about lost opportunities to live and to love.

Work can charge me up to enjoy nature. Or a "job" can anger me to turn against nature. Somehow, nature is the hidden factor in the matter of work. Once we deal with this, "good work" will follow, and it will be up to us to define this. In preparing for this week we gave some time to the study of Locke and Thoreau as well. This served us well. It would appear that we humans have gone from the assumption that we hold all the cards to the realization that it is nature that holds all the cards, not ourselves.

We will develop our philosophy of work as it will be in the future starting from there. It will come as no surprise that we may need a new mythology, stories our children will grasp, stories that will convey realities as we now see them, stories that respect nature, stories about a work ethic that serves people and not just corporations, stories about a work ethic that does indeed shape our world as it always has, but now with respect for our environment. Stories about a work ethic that shapes us as it always has, but will we be happy now in the work that we do?

As Sessions helped us conclude, we are not just making a living. We are making a being.

Two responses from colleagues: "His low key but warm and articulate style led us into many fruitful discussions. Again, the dualism themes surfaced---last week male/female, this week, work/play. I especially like this topic (work) as a focus for the future and what it means in terms of the humanities, science and technology." "Thought-provoking about deliberately changing our society. The notion of good work should be a major component of our course."

Third Week Of The Institute
Theme: The Spiritual Connection
Visiting Scholar: Harold Morowitz of George Mason University, Author of Cosmic Joy And Local Pain

Harold Morowitz is a bio-chemist and bio-physicist. By the end of our first day with him, we had warmed up to each other in quite a remarkable way, and when I introduced him to the visitors at our open forum, I found myself introducing him as a bio-poet. He is all of that, and more. The humanities, science and technology come together in this man, and with such ease as to make our aspirations seem to be at once worthy and attainable.

When at the end of our institute my colleagues surprised me with a plaque for my office, they inscribed on that plaque a quote from Harold Morowitz's poem, Woodbridge:

Standing among my trees, shrubs, mammals
Reptiles and insects,
I cannot fathom the existence of existence
But only feel the flow of a universe
Whose innermost secrets I will never know.

No wonder Morowitz perceives himself as a mystic scientist! Not in any traditional sense, in which some divinity out there reaches down and touches someone, but rather in that sense of fathomless mystery, surrounding every glimpse of new knowledge however great or however small. No wonder we asked him to connect with us on the spiritual dimension. This he did with humble grandeur.

One of highlight of his time with us was his clear and detailed description of the humanities, science and technology in 16th century Europe. The case he exemplified for us had to dc with the field of anatomy in that century, and the eventual discovery of the fallopian tubes. He posed the question to us: When dissection was approved by the church, and Da Vinci began dissecting, was he dissecting as an artist or as a scientist? Morowitz gave the definitive answer, Both!

A few evaluations of Morowitz from colleagues: "Lots of integrated thinking. This didn't just come. Thirty years of hard digging." "Masterful weaving of science and the humanities." Infectious! Have him here to kick off the course." "He connected again and again."

Fourth Week of the Institute
Theme: The Ethics Connection
Visiting Scholar: Robert McGinn, Author of Science, Technology and Society

The timing for Stanford's Robert McGinn was exactly perfect. We were ready to make the values connections, which is McGinn's very special gift. A gracious individual, he soothed the ethical process for us, helping us to visualize how the difficulty of making choices ties in with the emergence of values. It becomes obvious that this must happen as we go on choosing a worldview in which science and technology are all pervasive.

We need the ability to shift perceptions. In many ways we are inverse cripples. We are highly developed in one dimension, totally underdeveloped in other dimension. Our shift in perceptions could help us see tne humanities in all of its many expressions as awakening us to qualities that may be dormant.

Among those dormant qualities would be our sense of values. Human beings have limited empathy with regards to the effect of our actions on others. Therefore, over the years, the field of ethics has developed. McGinn is convinced that there is such a thing as shared human wiring, you might say, which can help us to see our situations together and act in concert when cause requires it. He asks, can we develop a critical mass of people who at least discover that they have enough in common, so they can use this as a source of wisdom, perhaps as a brake, in the midst of the explosion in science and technology. He would add, discriminately.

McGinn made reference to the city as a mechanism for sustained human contact. Not just physically, but spiritually too. He mentioned the need for checks and balances in that "city" as worldviews develop. Some among us, he says, are trying to create a worldview without loose ends. In today's constantly shifting sands, there are no ready at hand grids of meaning in which to plug in their outlets. Thus the need for all of us to plug into each other, to be more challenged than threatened by this living, dynamic, powerful time in which we live.

A humorous quote, undoubtedly with some merit, "If everyone woke up tomorrow with a profound sense of spiritual satisfaction, Wall Street would descend 1000 points!"

A few comments from colleagues: "A living, dynamic, and even profound model of connection making." "Helped us to see the larger picture of values, relating to the environment as well as to humans who happen to occupy that environment."

Reading

So many sources, from books to handouts, were read and discussed by the 20 participants both in anticipation of the Second Summer Institute and during the Institute that I must suffice it to say

that we truly did our homework. A reading list is being compiled listing all the books we have read and all the books our scholars suggested that we read, going back to the start of our project. It will be a lengthy list.

Conclusion

Before concluding this history, it would be proper to relate the effect this experience had on our visiting scholars. Unquestionably, something grand happened to us in these weeks. But when your visiting scholars tell you that something grand happened to them, you know that you have witnessed an extraordinary event. Here are some of their spontaneous reflections on their time with us:

From a letter received from Judith Zinsser: "You have a very special group of faculty and you have a unique opportunity. Together you can make a difference for your community. You see the strengths and the weaknesses of the present, and have the skills and understanding to move into a new place--to create a richer and even more effective educational environment. I envy you. It is not usually possible."

Comments made to us by Robert McGinn at his last session with us: "You people are friends. And I feel that you have welcomed me into your friendship. I am not used to this. I am moved."

Comments made to us by Harold Morowitz before he left our campus: "This week has been a profound experience for me. It seems to me that you are at a magic moment here."

All of us who shared this time together are in agreement. Our work is now before us, to design a course that will reflect something of that magic, something of what we have experienced and learned together.

Respectfully,

Robert Badra
NEH Project Director
The Humanities, Science and Technology: Making Connections
Kalamazoo Valley Community College

HUM 200

THE HUMANITIES, SCIENCE AND TECHNOLOGY: MAKING CONNECTIONS

A Four Credit Course Made Possible By A Grant From
The National Endowment For The Humanities

FACULTY MENTORS:

Teaching Faculty Mentors: Robert Badra, Philosophy, NEH Project Director and Course Facilitator; Patricia Baker, English; Su Cutler, English; Darrell Davies, Biology; David Dobbs, Drafting and Design; Harland Fish, Physics; Gerald Helsley, Automotive Technology; John Holmes, English; Richard Konieczka, English, Foundations and Humanities; Verne Mills, Biology; Kathryn Smith, Philosophy and Humanities; Theo Sypris, Economics and Political Science, International Studies Program Director.

Visiting Faculty Mentors: William Bonnell, Mathematics; Carson Gancer, Business; Keith Kroll, English; William Lay, English, Honors Program Director; Ronald Miazga, English; Martin Obed, Music and Humanities; Helen Palleschi, Nursing; David Posther, Photography; Eugene Radtke, Reference Librarian; Mary Wovcha, Mathematics.

Course Description: The humanities, science and technology are human activities which have advanced human knowledge and human understanding. From age to age they have had an influence on how humans perceive the world and their place in it. Our quest is to bring these three activities together to address such questions as: How does the human urge to explore connect with the development of technology? How does the human need to relate connect us with one another and our world? How can work be considered human and good? How do we gain insights from nature which then shape our understanding of human nature? How do poets and other artists advance human knowledge and human understanding? In the laboratory portion of the course, we will ask how we identify and investigate important human problems. Throughout, we will consider the connection between the values we choose and the world we may leave for our children.

Attitudinal Goals of the Course: 1. To stir the holistic imagination in such a way as to empower that imagination to deal with, be challenged by, and moved by the meeting of the humanities, science and technology.

2. With that imagination so stirred, to explore the relationship between the humanities, science and technology, and values---how these have effected each other in the course of time, in cultures East and West, and how these may effect each other in the global village.

Academic Goals of the Course: 1. There will be two exploratory, essay type examinations, mid-term and final, in which the student

will be expected to relate class experiences, course reading, and lab experiences while demonstrating a growing ability to make connections.

2. Students will carefully develop and submit for discussion purposes questions that lead to others questions and quite possibly to the kind of risk taking that an authentic democratic society rewards. Students will be expected to submit such questions as the spirit moves, but at least once in the semester.

3. Students will keep and submit a journal toward the end of the semester that will contain reflections from their reading and from their class experiences.

4. At the end of the semester, students and faculty together will deliberate in an open discussion, in good humor but with some serious intent, a connection maker's perceptions of the world. What sort of world view would flow from such perceptions? Would we want to live in that world? Would our grandchildren? In other words, together, we will begin to design a world view. This will be a celebration of the entire course.

5. An additional paper will be expected from Honors students. This will be arranged on a one to one basis by agreement as to topic, etc.

Books Required: Faculty Mentors are in the process of selecting books as this draft is written (Late August 1992).

Grading Criteria:

94-100	= 4.0
88-93	= 3.5
82-87	= 3.0
76-81	= 2.5
70-75	= 2.0
64-69	= 1.5
58-63	= 1.0
0-57	= Oh No!

Note: Attendance at class and participation in the lab experience are important to the grade.

RELAX ENJOY LEARN UNLEARN CONNECT

HST Bibliography

Auden, W. H. Achilles Shield. (poem)

Author? _____. The Spirituality of Green Politics.

? _____. Soft Energy Patterns.

? _____. Island of Dreams.

Bacon, Francis. On experiments.

Bellows, Robert. Habits of the Heart.

_____, _____. Benedict's Rule.

Berry, Thomas. A Dream of the Earth.

Boorstin, D.J. The Discoverers: A History of Man's Search To Know His World and Himself.

Bronowski, _____. The Ascent of Man. (movie)

Brower, Kenneth. The Starship and The Canoe.

Burke, James. The Day the Universe Changed.

Calvin, John. On Vocation.

Capra, Fritjof. The Tao of Physics.

Casti, J.L. Paradigms Lost: Images of Man in the Mirror of Science

Clark, Mary. Ariadne's Thread.

Dante, _____. Inferno.)
Paradiso.) Selections
Purgatory.)

Davis, P. and Hersh, R. Descartes' Dream: The World According to Mathematics.

_____. Diagrams of Ptolemanic System.

de Chardin, Theilhard. The Making of a Mind.

Descartes. Discourse on Method (any work)

Dillard, Annie. Pilgrim at Tinker Creek.

Durant, Will. The Story of Philosophy.

Dyson, Freeman. Infinite in All Directions

_____. The Phenomenon of Man

_____. Teaching a Stone to Talk: For the Common Good.

Eiseley, Loren. The Immense Journey.

Ferris, Timothy. Coming of Age in the Milky Way.

Florman, Samuel. The Existential Engineer.

_____. To Engineer Is Human.

Galileo, _____. Dialogue on Z Worlds.

Gita, Bhagavad. _____.

Gleick, James. Chaos: Making a New Science.

_____. Gothic Cathedral Music - Gregorian Chants.

Goldstein, _____. Ways of Knowing.

Gould, Stephen Jay. Ever Since Darwin.

_____. The Panda's Thumb.

Hardison, O.B. Disappearing Through the Skylight: Culture and Technology in the Twentieth Century.

Hawking, Stephen. A Brief History of Time: From the Big Bang to Black Holes.

Huxley, Aldous. Literature & Science.

Johanson, Donald, and J. Shreeve. Lucy's Child: The Discovery of a Human Ancestor.

Kline, Morris. Mathematics and Modern Culture.

Koestler, A. The Watershed.

_____. ?_____: A Cultural Approach.

Lao Tzu. Tao Te Ching.

Le Goff, _____. Time, Work & Culture in the Middle Ages.

Levine, Thelma. From Socrates to Forte.

Lewis, C.S. The Discarded Image.

Lewis, Sinclair. Arrowsmith

Lopez, Barry. Arctic Dreams.

McKay, David. Extraordinary Popular Delusions in the Madness of Crowds.

Melville, Herman. Moby Dick.

Mordotty, Harold. Mayonnaise & the Origin of Life.
Knowing and Guessing.
Cosmic Joy and Local Pain

Morowitz. Cosmic Joy.

Nash, ? _____. The Rights of Nature

Needham, Joseph. Science and Civilization

Ornstein, Bruce. Multimind.

Pagels, Henry. Dreams of Reason.

Penrose, R. The Emperor's New Mind: Concerning Computers, Minds, and the Laws of Physics.

Pirsig, Robert. Zen and the Art of Motorcycle Maintenance.

Power, Eileen. Medieval People.

Russell, Bertrand. History of Western Philosophy.

Selzer, Richard. Taking the World in for Repairs.

Sessions, Robert. Working in America.

Shlain, Dr. Leonard. Arts & Physics: Parallel Vision in Space, Time & Light.

Spence, Jonathon. To Change China.

St. Francis, _____. Canticle.

St. Thomas, _____. Sunmatheologia.

St. Thomas, _____. Writing on the Existence of God.

Steinbeck, John. Cannery Row.

_____. The Youngest Science: Notes of a Medicine Watcher.

Thomas, Lewis. Late Night Thoughts on Listening to Mahler's Ninth Symphony.

Thompson, William Irwin. Darkness and Scattered Light.

Thoreau, H. D. all writings.

_____. Seven Dragons.

White, Fred. Science and the Human Spirit.

_____. Weapons and Hope (Arms Control).

White, Lynn. Medical Technology and Social Change.

_____. The Crime of Galileo.

Vonnegut, Kurt. Cat's Cradle.

_____. The Creative Spirit.